

## CHANGE ISSUE – RTCA/DO-242

# MASPS for ADS-B

## Rev. A

Tracking Information (committee secretary only)	
Change Issue Number	51
Submission Date	12/17/01
Status (open/closed/deferred)	DEFERRED
Last Action Date	02/01/02

Short Title for Change Issue:	Option for use of temporary addresses identifiable only to ATC
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MASPS Document Reference:		Originator Information:	
Entire document (y/n)		Name	Chris Moody
Section number(s)	2.1.2.3	Phone	703 883 5506
Paragraph number(s)		E-mail	Cmoody@mitre.org
Table/Figure number(s)		Other	

Proposed Rationale for Consideration (originator should check all that apply):	
<input type="checkbox"/>	Item needed to support of near-term MASPS/MOPS development
X	DO-260/ED-102 1090 MHz Link MOPS Rev A
<input type="checkbox"/>	ASA MASPS
<input type="checkbox"/>	TIS-B MASPS
X	UAT MOPS
<input type="checkbox"/>	Item needed to support applications that have well defined concept of operation
<input type="checkbox"/>	Has complete application description
<input type="checkbox"/>	Has initial validation via operational test/evaluation
<input type="checkbox"/>	Has supporting analysis, if candidate stressing application
<input type="checkbox"/>	Item needed for harmonization with international requirements
<input type="checkbox"/>	Item identified during recent ADS-B development activities and operational evaluations
<input type="checkbox"/>	MASPS clarifications and correction item
<input type="checkbox"/>	Validation/modification of questioned MASPS requirement item
<input type="checkbox"/>	Military use provision item
<input type="checkbox"/>	New requirement item (must be associated with traffic surveillance to support ASAS)

Nature of Issue:	<input type="checkbox"/> Editorial	<input type="checkbox"/> Clarity	<input type="checkbox"/> Performance	X	Functional
<p><u>Issue Description:</u></p> <p>For reasons of security and privacy, consideration should be given in DO-242 A to supporting a capability for any user to operate with a temporarily assigned address—even those operating IFR. This would allow users to be identified only to ATC—by correlation of the temporary address with flight data. It would allow users to <i>de-identify</i> themselves to the general listening audience. This could be an important consideration to an increasing number of users as time goes on. Policy would dictate which form of address would be used, but the ADS-B system should preserve the technical option to go either way (permanent airframe, or temporary flight duration address). Procedures would need to be developed to generate and assign the temporary addresses as well as a way to easily correlate these addresses with flight data within the ATC system. One simple approach for generating and assigning these temporary addresses would be to have the ADS-B system randomly generate an address internally by using current position at start-up as the random seed. See UAT WP-5-02 for more discussion on this including the probability and impact of duplicate addresses with a randomly generated 2<sup>24</sup> random address space.</p>					

Originator's proposed resolution:

**Section 2.1.2.3 Address and Address Qualifier**

The ADS-B system design shall (R2.8) include a means (e.g., an address) to 1, correlate all ADS-B messages transmitted from the A/V and 2, differentiate it from other A/Vs in the operational domain.

Two approaches to ADS-B addressing for aircraft shall be accommodated. The particular approach used at any given time will depend on local policy and user preference. The first approach is a globally coordinated and guaranteed unique address—the ICAO 24 bit address. The second approach is a temporarily assigned 24 bit address that cannot be traced to the operator or the airframe through registry information. When using this form of address, identity would be made known only to ATC and then only when the user is receiving ATC services. One purpose of the Address Qualifier is to distinguish these two separate 24 bit address spaces.

Ad Hoc Group Deliberations:

February 01, 2002: This Issue Paper was reviewed by WG6 at their January 2002 meeting. It was decided to DEFER this IP to a future revision of the MASPS. It was noted, however, that the address qualifier (in response to IP05) could be used as a means to have a “privacy mode” for a non-transponder ADS-B systems. It was agreed by WG6 that incorporation of the address qualifier makes room for designation of a temporary address, as proposed in IP51. It will be left to Rev B and lower-level documents (MOPS) to further define how the temporary address feature would be implemented within the ATC system.

Part of the reason this Issue Paper was deferred is that requiring the ability for a privacy mode would place some ADS-B systems in direct conflict with ICAO policy. It is hoped by WG6 that a major theme of revision B efforts will be harmonization with European ADS requirements and that this conflict with ICAO policy can be resolved as part of that process. This would allow this Issue Paper to be considered as part of a revision B of the MASPS.